WHAT IS CLAIMED IS:

1. A pressure-energized, metallic seal for sealing axially facing annular surfaces, comprising:

a central annular portion extending around a central axis, said central annular portion having a first end and a second end;

a first annular leg portion extending from said first end of said central portion to an annular first free end, said first annular leg portion having a first annular convex sealing surface lying in a first sealing plane; and

a second annular leg portion extending from said second end of said central portion to a second free end, said second annular leg portion having a second annular convex sealing surface lying in a second sealing plane, said second free end of said second leg portion having an annular flange extending substantially parallel to said first and second sealing planes and offset from said second sealing plane in an axial direction towards said first sealing plane.

2. The pressure-energized, metallic seal according to claim 1, wherein said annular flange of said second free end extends in a radial direction away from said central annular portion at least as far as said first free end.

3. The pressure-energized, metallic seal according to claim 2, wherein said annular flange of said second free end includes at least one radially extending tab projecting further in said radial direction than adjacent parts of said annular flange.

4. The pressure-energized, metallic seal according to claim 3, wherein said tab includes an axial opening formed therein.

5. The pressure-energized, metallic seal according to claim 3, wherein said tab includes an open ended slot formed therein.

6. The pressure-energized, metallic seal according to claim 2, wherein

said annular flange of said second free end includes a plurality of radially extending tabs projecting further than adjacent parts of said annular flange.

7. The pressure-energized, metallic seal according to claim 6, wherein said plurality of tabs are peripherally spaced from each other.

8. The pressure-energized, metallic seal according to claim 7, wherein said annular flange of said second free end includes four of said tabs.

9. The pressure-energized, metallic seal according to claim 8, wherein said seal is substantially rectangular shaped as viewed along said central axis with one of said tabs located at each corner.

10. The pressure-energized, metallic seal according to claim 8, wherein at least two of said tabs have an axial hole formed therein.

11. The pressure-energized, metallic seal according to claim 8, wherein at least two of said tabs have an open ended slot formed therein.

12. The pressure-energized, metallic seal according to claim 1, wherein said seal has a substantially C-shaped transverse cross-sectional profile as viewed in a peripheral direction.

13. The pressure-energized, metallic seal according to claim 1, wherein said central portion, said first leg portion and said second leg portion are constructed together as a one-piece, unitary member.

14. The pressure-energized, metallic seal according to claim 1, wherein said seal is substantially rectangular shaped with rounded corners as viewed along said central axis.

15. The pressure-energized, metallic seal according to claim 1, wherein

said seal has a non-circular shape as viewed along said central axis.

16. The pressure-energized, metallic seal according to claim 1, wherein said first and second annular leg portions extend outwardly from said central annular portion in a radial direction away from said central axis.

17. The pressure-energized, metallic seal according to claim 1, wherein said first and second annular leg portions extend inwardly from said central annular portion in a radial direction toward said central axis.

18. A pressure-energized, metallic seal for sealing axially facing annular surfaces, comprising:

a central annular portion extending around a central axis, said central annular portion having a first end and a second end;

a first annular leg portion extending from said first end of said central portion to an annular first free end, said first annular leg portion having a first annular convex sealing surface lying in a first sealing plane; and

a second annular leg portion extending from said second end of said central portion to a second free end, said second annular leg portion having a second annular convex sealing surface lying in a second sealing plane, said second free end having at least one radially extending tab projecting further than adjacent parts of said seal.

19. The pressure-energized, metallic seal according to claim 18, wherein said tab includes an axial opening formed therein.

20. The pressure-energized, metallic seal according to claim 18, wherein said tab includes an open ended slot formed therein.

21. The pressure-energized, metallic seal according to claim 18, wherein said second free end of said second leg portion includes a plurality of radially extending tabs projecting further than adjacent parts of said seal.

22. The pressure-energized, metallic seal according to claim 21, wherein said plurality of tabs are peripherally spaced from each other.

23. The pressure-energized, metallic seal according to claim 22, wherein said second free end of said second leg portion includes four of said tabs.

24. The pressure-energized, metallic seal according to claim 23, wherein said seal is substantially rectangular shaped as viewed along said central axis with one of said tabs located at each corner.

25. The pressure-energized, metallic seal according to claim 23, wherein at least two of said tabs have an axial hole formed therein.

26. The pressure-energized, metallic seal according to claim 23, wherein at least two of said tabs have an open ended slot formed therein.

27. The pressure-energized, metallic seal according to claim 1, wherein said seal has a substantially C-shaped transverse cross-sectional profile as viewed in a peripheral direction.

28. The pressure-energized, metallic seal according to claim 1, wherein said central portion, said first leg portion and said second leg portion are constructed together as a one-piece, unitary member.

29. The pressure-energized, metallic seal according to claim 1, wherein said seal is substantially rectangular shaped with rounded corners as viewed along said central axis.

30. The pressure-energized, metallic seal according to claim 1, wherein said seal has a non-circular shape as viewed along said central axis.

31. The pressure-energized, metallic seal according to claim 1, wherein

said first and second annular leg portions extend outwardly from said central annular portion in a radial direction away from said central axis.

32. The pressure-energized, metallic seal according to claim 1, wherein said first and second annular leg portions extend inwardly from said central annular portion in a radial direction toward said central axis.

33. A method of manufacturing a pressure-energized, metallic seal, comprising:

feeding a metal sheet material into a sheet metal forming machine;

cutting a first annular edge of the pressure-energized, metallic seal in the metal sheet material that extends around a central axis;

bending a portion of the metal sheet material to form a cross-sectional profile of the pressure-energized, metallic seal that includes

a central annular portion extending around the central axis, the central annular portion having a first end and a second end,

a first annular leg portion extending from the first end of the central portion to an annular first free end with the first annular edge, the first annular leg portion having a first annular convex sealing surface lying in a first sealing plane, and

a second annular leg portion extending from the second end of the central portion, the second annular leg portion having a second annular convex sealing surface lying in a second plane; and

cutting a second annular edge of the pressure-energized, metallic seal in the metal sheet material to form a second free end of the second leg portion having an annular flange extending substantially parallel to the first and second sealing planes and offset from the second sealing plane in an axial direction towards the first sealing plane.

34. The method of manufacturing the pressure-energized, metallic seal according to claim 33, wherein

the bending of the portion of the metal sheet material is performed using an automated progressive pressing operation.

35. The method of manufacturing the pressure-energized, metallic seal according to claim 33, wherein

the cutting of the first annular edge of the pressure-energized, metallic seal occurs before the bending of the portion of the metal sheet material; and

the bending of the portion of the metal sheet material occurs before the cutting of the second annular edge of the pressure-energized, metallic seal.

36. The method of manufacturing the pressure-energized, metallic seal according to claim 35, wherein

the cutting of the second annular edge of the pressure-energized, metallic seal occurs at a radial position such that the annular flange of the second free end extends in a radial direction away from the central annular portion at least as far as the first free end.

37. The method of manufacturing the pressure-energized, metallic seal according to claim 33, wherein

the cutting of the second annular edge of the pressure-energized, metallic seal creates at least one radially extending tab that projects in a radial direction from the annular flange, the at least one tab projecting further in the radial direction than adjacent parts of the annular flange.

38. The method of manufacturing the pressure-energized, metallic seal according to claim 37, further comprising

cutting an axial opening in the at least one tab.

39. The method of manufacturing the pressure-energized, metallic seal according to claim 37, further comprising

cutting an open ended slot in the at least one tab.

40. The method of manufacturing the pressure-energized, metallic seal according to claim 33, wherein

the cutting of the second annular edge of the pressure-energized, metallic seal creates a plurality of radially extending, peripherally spaced tabs that project in a radial

direction from the annular flange, the tabs projecting further in the radial direction than adjacent parts of the annular flange.

41. The method of manufacturing the pressure-energized, metallic seal according to claim 40, wherein

the cutting of the second annular edge of the pressure-energized, metallic seal creates four of the tabs.

42. The method of manufacturing the pressure-energized, metallic seal according to claim 41, further comprising

cutting an axial hole in at least two of the tabs.

43. The method of manufacturing the pressure-energized, metallic seal according to claim 41, further comprising

cutting an open ended slot in at least two of the tabs.

44. The method of manufacturing the pressure-energized, metallic seal according to claim 33, wherein

the bending of the portion of the metal sheet material creates a substantially C-shaped transverse cross-sectional profile as viewed in a peripheral direction.

45. The method of manufacturing the pressure-energized, metallic seal according to claim 33, wherein

the cutting the first annular edge of the pressure-energized, metallic seal creates a non-circular shape as viewed along the central axis; and

the cutting the second annular edge of the pressure-energized, metallic seal creates a non-circular shape as viewed along the central axis.

46. The method of manufacturing the pressure-energized, metallic seal according to claim 33, wherein

the first annular edge is moved axially and radially outwardly relative to the central axis during the bending of the portion of the metal sheet material such that the first and

second annular leg portions extend outwardly from the central annular portion in a radial direction away from the central axis.

47. The method of manufacturing the pressure-energized, metallic seal according to claim 33, wherein

the first annular edge is moved axially and radially inwardly relative to the central axis during the bending of the portion of the metal sheet material such that the first and second annular leg portions extend inwardly from the central annular portion in a radial direction toward the central axis.